

ABSTRACT

1 A data storage device that includes an array of resistive memory cells. The
2 resistive memory cells may include a magnetic tunnel junction (MTJ) and a thin-film
3 diode. The device may include a circuit that is electrically connected to the array and that
4 is also capable of monitoring a signal current flowing through a selected memory cell.
5 Once the signal current has been monitored, the circuit is capable of comparing the signal
6 current to an average reference current in order to determine which of a first resistance
7 state and a second resistance state the selected memory cell is in. Also, a method for
8 operating the data storage device.